

Amendments to the Claims:

1. (Amended) A separator for separating particles entrained in a fluid, said separator including:

a sleeve adapted to be mounted over a rotatable shaft for forming a cavity therebetween;

an inlet to the cavity through which a slurry of fluid and particles may enter the cavity in use;

[an outlet to the cavity opposite the inlet; and]

[means] a device for imparting a centrifugal force on fluid within the cavity, said [means] device operatively connected to the shaft so that, in use, spinning of the shaft creates the centrifugal force which separates the fluid into an inner layer substantially devoid of particles and an outer layer carrying the particles;

[wherein, in use, a slurry of fluid and particles enters the cavity through the inlet, the particles are caused to separate from the fluid by action of the centrifugal force, the separated particles and fluid leave the cavity via the outlet with the particles tending to be closer to the sleeve than the shaft.]

a partition arranged to part the inner layer of fluid substantially devoid of particles from the outer layer of fluid carrying particles; and

a first outlet from the cavity for allowing the outer layer to exit the cavity and a second outlet for the cavity for allowing the inner layer to exit the cavity.

2. (Amended) A separator according to claim 1, wherein the cavity increases in cross-sectional area along its length from the inlet towards the outlets.

3. (Amended) A separator according to claim 1, wherein the sleeve is frustoconical in shape with the narrow end of the cone at the inlet and a wide end at the outlet, whereby the size of the cavity increases along its length from the inlet to the outlets.

4. (Amended) A separator according to claim 1, wherein said [means] device is in the

form of one or more paddles projecting from the shaft into the cavity.

5. (Cancelled) A separator according to claim 1, wherein the inlet is of a smaller area than the outlet.

6. (Original) A separator according to claim 1, wherein in the cavity is of a helical shape.

7. (Amended) A separator according to claim 6, wherein said helical shape of the cavity acts as said [means] device for imparting centrifugal force.

8. (Amended) A separator according to claim 1, wherein the outlet includes a chamber at the [end] outlet of the cavity between the sleeve and the shaft, the chamber arranged to receive [a parting means] the partition [for portioning an inner layer of fluid substantially devoid of the particles from an outer layer of fluid carrying the particles].

9. (Cancelled) A separator according to claim 1, wherein said outlet includes a parting means arranged to portion an inner layer of fluid substantially devoid of the particles from an outer layer of the fluid carrying the particles.

10. (Amended) A separator according to claim [9] 1, wherein the [parting means] partition is in the form of a blade closely encircling the shaft.

11. (Amended) A separator according to claim [9] 1, wherein the sleeve is arranged to rotate about its axis relative to the [parting means] partition.

12. (Cancelled) A separator according to claim 9, wherein the outer layer is ejected from a first exit of the outlet.

13. (Amended) A separator according to claim [12, wherein the first exit includes] 1, further comprising a turbulence [means] inducer for slowing the exit of fluid carrying particles from the first [exit] outlet.

14. (Amended) A separator according to claim [9] 1, wherein the [parting means] partition includes a scoop for scooping the inner layer of fluid away from an edge of the [blade means] partition to [a] the second [exit of the] outlet.

15. (Amended) A separator according to claim 14, wherein the scoop is in the form of a plurality of channels in the [parting means] partition.

16. (Amended) A separator according to claim [6]15, wherein a first raceway is provided between the inlet and the [helical cavity] device for imparting centrifugal force.

17. (Amended) A separator according to claim [15] 16, wherein a second raceway is provided between the channels in the [parting means] partition and the second [exit] outlet.

18. (Cancelled) A separator and parting means combination, the separator as defined in claim 1, wherein the parting means parts an inner layer of fluid substantially devoid of particles from an outer layer of fluid carrying particles.

19. (Amended) A separator and bearing combination, the separator as defined in claim 1, the bearing arranged to receive fluid substantially devoid of particles [from close to the shaft] from the second outlet of the separator.

20. (Amended) [A separator, parting means and a bearing combination, the separator and parting means as defined in claim 18, the bearing arranged to receive the] A separator, parting means and a bearing combination,

the separator for separating particles entrained in a fluid, said separator including a

sleeve adapted to be mounted over a rotatable shaft for forming a cavity therebetween, an inlet to the cavity through which a slurry of fluid and particles may enter the cavity in use, a device for imparting a centrifugal force on fluid within the cavity, said device operatively connected to the shaft so that, in use, spinning of the shaft creates the centrifugal force which separates the fluid into an inner layer substantially devoid of particles and an outer layer carrying the particles;

the parting means parts the inner layer of fluid substantially devoid of particles from the outer layer of fluid carrying particles; and

a bearing arranged to receive the inner layer of fluid from the parting means.

21. (Amended) A separator[, parting means] and [a] bearing combination according to claim 19, wherein the bearing is provided with a sieve means on an opposite side of the bearing to the separator.

22. (New) A separator according to claim 14, wherein the scoop is in the form of a plurality of channels in the parting device.

23. (New) A separator for separating particles entrained in a fluid, said separator including:

a sleeve adapted to be mounted over a rotatable shaft for forming a cavity therebetween;

an inlet to the cavity through which a slurry of fluid and particles may enter the cavity in use;

one or more paddles projecting from the shaft into the cavity so that, in use, spinning of the shaft imparts a centrifugal force on fluid within the cavity, said centrifugal force, in use, separating the fluid so that the particles are caused to move away from the shaft leaving fluid substantially devoid of particles closer to the sleeve than the shaft; and

an outlet from the cavity opposite the inlet through which the particles leave the cavity further away from the shaft than fluid substantially devoid of particles leaves the cavity.

24. (New) A separator according to claim 23, wherein the outlet includes a chamber at the outlet of the cavity between the sleeve and the shaft, the chamber arranged to receive a parting device for portioning an inner layer of fluid substantially devoid of the particles from an outer layer of fluid carrying the particles.

25. (New) A separator according to claim 24, wherein said outlet includes a parting device arranged to portion an inner layer of fluid substantially devoid of the particles from an outer layer of the fluid carrying the particles.

26. (New) A separator according to claim 25, wherein the parting device is in the form of a blade closely encircling the shaft.

27. (New) A separator according to claim 25, wherein the sleeve is arranged to rotate about its axis relative to the parting device.

28. (New) A separator according to claim 25, wherein the outer layer is ejected from a first exit of the outlet.

29. (New) A separator according to claim 28, wherein the first exit includes a turbulence means for slowing the exit of fluid carrying particles from the first exit.

30. (New) A separator according to claim 28, wherein the parting device includes a scoop for scooping the inner layer of fluid away from an edge of the parting device to a second exit of the outlet.

31. (New) A separator and bearing combination, the separator as defined in claim 24, the bearing arranged to receive fluid substantially devoid of particles from close to the shaft from the outlet of the separator.

32. (New) A separator for separating particles entrained in a fluid, said separator including:

a sleeve adapted to be mounted over a rotatable shaft for forming a cavity therebetween;

an inlet to a helically shaped cavity through which a slurry of fluid and particles may enter the cavity in use;

a device for imparting a centrifugal force on fluid within the cavity, said device operatively connected to the shaft so that, in use, spinning of the shaft creates the centrifugal force, of fluid within the cavity, said centrifugal force, in use, separating the fluid so that the particles are caused to move away from the shaft leaving fluid substantially devoid of particles be closer to the sleeve than the shaft; and

an outlet from the cavity opposite the inlet through which the particles leave the cavity further away from the shaft than fluid substantially devoid of particles leaves the cavity.

33. (New) A separator according to claim 32, wherein said helical shape of the cavity acts as said device for imparting centrifugal force.

34. (New) A separator according to claim 32, wherein the outlet includes a chamber at the outlet of the cavity between the sleeve and the shaft, the chamber arranged to receive a parting device for portioning an inner layer of fluid substantially devoid of the particles from an outer layer of fluid carrying the particles.

35. (New) A separator according to claim 34, wherein said outlet includes the parting device arranged to portion an inner layer of fluid substantially devoid of the particles from an outer layer of the fluid carrying the particles.